IMPROVING CARE MANAGEMENT FOR KAPIʻOLANI WOMEN'S CENTER BIRADS 3 PATIENTS

A DOCTOR OF NURSING PRACTICE PROJECT SUBMITTED TO THE OFFICE OF GRADUATE EDUCATION OF THE UNIVERSITY OF HAWAIʻI AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF NURSING PRACTICE

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Abstract

Breast cancer is a common cancer among women. Appropriate screening and monitoring are necessary for early detection and treatment to improve survival rates. Due to barriers to care, many women do not follow up with their screening in a timely manner. As the Kapi`olani Women's Center (KWC) had inconsistent follow up and no facility established guidelines for pre-scheduling and educating patients with Breast Imaging Reporting and Data System (BIRADS) category 3 results, this quality improvement project was developed to improve care management for KWC BIRADS 3 patients through patient navigation, utilizing an evidence-based scheduling and reminder system, and motivational interviewing techniques. Barriers to care were also identified and addressed. Findings indicated potential positive impacts in increasing timely follow up and decreasing no show occurrences as two post-intervention months had significant findings and achieved intermediate outcomes; however, extension of implementation timeline, designation of staff responsibilities, and facility infrastructure adjustments were advised.

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List of Abbreviations

AACN – American Association of College of Nursing

BIRADS – Breast Imaging Reporting and Data System

BOA(s) – Business Office Assistant(s)

DNP – Doctor of Nursing Practice

EBP – Evidence Based Practice

EMR – Electronic Medical Records

IT – Information Technology

Kalihi-Palama Health Center – KPHC

KWC – Kapi`olani Women's Center

MA(s) – Medical Assistant(s)

MeSH – Medical Subject Headings

MI – Motivational Interviewing

NAPBC – National Accreditation Program for Breast Centers

QI – Quality Improvement

UHM – University of Hawai`i Mānoa

Introduction

Breast cancer is one of the most common types of cancer seen in women, with over 1.6 million newly diagnosed breast cancer cases worldwide each year, accounting for 25% of all cancer cases (GLOBOCAN, 2012; WHO, 2017). In 2015, there were approximately 135 new cases of breast cancer per 100,000 women and 19 breast cancer related deaths per 100,000 women in Hawaii (CDC, 2018).

Given its high prevalence and risk of developing invasive disease, proper monitoring and screening are essential for early detection of breast cancer and its effective treatment (Breastcancer.org, 2017; WHO, 2017). Unfortunately, many barriers prevent patients from scheduling appointments, getting appropriately screened, and receiving the necessary follow up care due to demographic issues (location, race, age, or income), personal issues (busy schedule, lack of knowledge, or denial), social issues (lack of insurance, transportation, or support), and cultural issues (language barriers or beliefs) (Feldstein et al., 2011).

Description of the Problem/Need

The Kapi`olani Women's Center (KWC) provides breast imaging services on the island of Oahu, including screening and diagnostic mammography and breast ultrasounds. The Breast Imaging Reporting and Data System (BIRADS) system is a standardized radiologic scheme that sorts breast cancer screening mammography findings into categories numbered 0 to 6 in order to facilitate physician communication and clinical follow up. Patients with results classified as BIRADS 3 most likely have benign findings but require follow up at 6-month intervals until the findings are shown to be stable. This helps avoid unnecessary biopsies, while allowing for early diagnosis in cases where concerning changes are observed (American Cancer Society, 2018).

Approximately 100 patients receive breast imaging services each day of the week at KWC, however, there was no active facility established system to pre-schedule and educate patients with BIRADS 3 findings. Although KWC provided reminder letters sent to patients about 1 month before the appointment due date and twice more once it was overdue as well as verbal notification for missed and overdue appointments, follow up was inconsistent due to changes in personnel and staff responsibilities. While there may be other factors contributing to this trend, erratic follow up can potentially cause delays in diagnosis and care, which would be detrimental to patients' wellbeing. A more proactive system was needed to track the screening population, help decrease barriers to care, provide timely follow up, and reduce no-show rates.

Review of Literature

PubMed and CINAHL databases were searched for evidence-based findings regarding patient navigation improving follow up and no-show outcomes for breast imaging appointments. The Medical Subject Headings (MeSH) terms used in the search were: "patient navigation", "reminder system", "appointments and schedules", "follow up", "no-show patients", "motivational interviewing", "abnormal cancer screening", "abnormal mammogram", and "early detection of cancer". To specify the population of the project, key terms such as "community health centers", "ambulatory care facilities", and "breast" were included in the electronic search. An exclusion term was "breastfeeding". Filters utilized included "human species", "age 19+ years", and "English language". Approximately 127 articles were identified and reviewed with publication dates ranging from 1999 to 2017; however, only 22 articles were critiqued as other articles did not meet specific inclusion and exclusion criteria. Exclusion criteria included articles specifically pertaining to acute care settings, episodic visits, and those with no standardized follow up recommendations. See Appendix A for figure that arranges articles by Mosby's levels

of evidence and table of Mosby's level of evidence criteria. The following is a summary of pertinent findings.

Patient Navigation

Patient navigators are trained healthcare professionals who help patients navigate complex healthcare systems to overcome obstacles that may impede care. The concept of patient navigation was developed to decrease barriers and improve healthcare coordination and care for the medically underserved populations (Joseph, 2012). Numerous studies showed the effectiveness of patient navigation to facilitate cancer screening, reduce barriers to care, increase patient satisfaction, and alleviate provider workload (Ali-Faisal, Colella, Medina-Jaudes, & Scott, 2017; Battaglia, Roloff, Posner, & Freund, 2007; Drake et al., 2015; Feldstein et al., 2011; Gabitova & Burke, 2014; Gunn, Clark, Gattaglia, Freund, & Parker, 2014; Marshall et al., 2015; Percac-Lima, Ashburner, Bond, Oo, & Atlas, 2013; Shockney, Haylock, & Cantril, 2013; Stanley et al., 2013). Successful follow up programs should clearly define the navigator's role to reduce patient and staff confusion (Gabitova & Burke, 2014; Shockney et al., 2013).

Scheduling and Reminder Systems/Adherence

Studies showed a combination of letters and phone calls is a widely used and cost-effective reminder protocol, where letters prompt motivated patients to schedule follow up appointments and personalized phone calls can mobilize the more reluctant ones (Callinan et al., 2017; Feldstein et al., 2011; Ludman, Curry, Meyer, & Taplin, 1999; Payton, Sarfaty, Beckett, Campos, & Hilbert, 2015; Vogt, Glass, Glasgow, La Chance, & Lichtenstein, 2003). The latter provided an opportunity for staff to provide counseling, for patients to voice concerns, and for direct scheduling of appointments (Callinan et al., 2017; Payton et al., 2015; Wyatt II, Shriki, & Bhargava, 2016). Reminder phone calls also helped to decrease missed appointments (Battaglia

et al., 2012; Drewek, Mirea, & Adelson, 2017; Knolhoff, Djenic, Hsu, Bouton, & Komenaka, 2016; Payton et al., 2015; Wyatt II et al., 2016).

Motivational Interviewing

Motivational interviewing (MI) has shown potential in promoting adherence and increasing uptake with care management and screenings, including mammography and colonoscopies (Battaglia et al., 2012, Corey, Gorski, Schaper, & Newberry, 2009; Miller, Foran-Tuller, Ledergerber, & Jandorf, 2017).). The five principles of MI are: 1) Adjusting to client resistance rather than opposing it directly, 2) expressing empathy through reflective listening, 3) avoiding argument and direct confrontation, 4) identifying discrepancies between clients' goals or values and their current behavior, and 5) supporting self-efficacy and optimism (Miller & Rollnick, 1991, pp. 51-52). Using the principles of MI allows patient navigators to identify and understand barriers to care, empower patients, and work with them to address and overcome obstacles, so that greater adherence is achieved (Battaglia et al., 2012; Miller & Rollnick, 1991).

Application to DNP Project

Although patient navigation, scheduling and reminder systems, and MI have all proven to be separately successful tools, taken individually, they may not always address all patient barriers to care (Feldstein et al., 2011). The combination of patient navigation, a scheduling and reminder system, and a MI approach was therefore used to identify and address various barriers to care and promote appropriate follow up and decrease no show outcomes for KWC BIRADS 3 patients (Battaglia et al., 2007; Feldstein et al., 2011; Madore, Kilbourn, Valverde, Borrayo, & Raich, 2014).

Theoretical/Conceptual Framework

The eight-step Iowa Model of Evidence Based Practice (EBP) was the conceptual model that guided this Doctor of Nursing Practice (DNP) project (see Appendix B). Project implementation followed the step-by-step process of the Iowa Model: there was an identified need for the project; it required multidisciplinary team collaboration; there was EBP support for interventions; and a pilot project restricted to BIRADS 3 KWC patients was tested before potential implementation of the program for all BIRADS stages (Office of Nursing Service, 2015; Titler et al., 2001).

PICO Question/Purpose & Goals

This DNP project addressed the question: How does patient navigation using an evidence-based scheduling and reminder program and MI techniques (Intervention) affect KWC BIRADS 3 patients' (Population) follow up and no show outcomes (Outcome) compared to current practice (Comparison)? The purpose of this DNP project was to improve patient care management for KWC BIRADS 3 patients by designating scheduling and follow up responsibilities to an appropriately trained staff member who would incorporate patient navigation and MI techniques to help identify and address barriers to care. Short-term objectives included training staff members, utilizing program guidelines for all KWC BIRADS 3 patients, and increasing staff knowledge of patient navigation and MI. The intermediate objectives of the project were to increase timely follow up appointments by 10% and decrease no show occurrences by 10% within 3 months to 3 years of implementing the project. Long term objectives between 3 and 5 years of project implementation were to increase follow up rates and decrease no show outcomes by 25%, as well as improve breast health outcomes and expanding the program to other BIRADS groups (see Appendix C).

Methods/Procedures

Project Design

Quality Improvement (QI) is a type of project that promotes systematic events and changes to improve health care services and processes for a particularly targeted patient group (U.S. Department of Health and Human Services Health Resources and Services Administration, 2011). This project was QI as it focused on improving the follow up care process of a very specific group, the KWC BIRADS 3 patients, and increasing the process efficiency. In contrast, EBP is usually patient-centered and directed at improving patient clinical practice (North Dakota Center for Nursing, 2014). A logic model detailing resources, activities, participants, outcome objectives and goals, and questions that were evaluated can be found in Appendix C.

Sampling Plan

The project was conducted at the KWC Artesian Plaza in the breast imaging department, which provides mammography, breast ultrasound, and breast biopsy services. On average, approximately 100 patients are treated daily for a variety of services, including approximately five to six BIRADS 3 patients daily throughout the regular work week. KWC BIRADS 3 patients were the focus of this pilot program, as BIRADS 3 patients form a smaller population and require a shorter follow up period than patients seen for yearly screening.

The sampling procedure was purposive with no randomization, as it would be unethical given the extensive evidence indicating the benefits of the planned interventions (Battaglia et al., 2007; Feldstein et al., 2011; Issel & Wells, 2018; Miller et al., 2017). Participants were selected using Epic, the electronic medical records (EMR) database, which sorted KWC BIRADS 3 patients and provided demographic information. Although MAs were initially targeted to implement the project, the project responsibilities were ultimately completed by the author.

Human Subjects Consideration

No IRB review was needed for this project as it meets the criteria for a QI project per the University of Hawai`i Mānoa (UHM) memorandum released by Victoria Rivera, Director of the UHM Office of Research Compliance and Human Studies Program, on August 2, 2018.

Timeline

A tailored patient navigation program guideline that utilized previous studies, research, and current practices was developed to provide clear expectations of patient navigation, explain components of MI, and supply standardized scheduling, reminder calls, and no show procedure resources for staff (see Appendices D, E, and F). Meetings were held with stakeholders to receive feedback on the guidelines and determine the next steps. MAs begun training in October 2018 on patient navigation, MI techniques, program guidelines, and data collection procedures but did not complete training due to reassignment and extended absence. EMR data was collected for past and future BIRADS 3 patients. Potential participants were identified between November 2018 and February 2019.

The DNP project intervention was implemented between December 1, 2018 and February 28, 2019. Interventions included scheduling patients, coordinating patient care, calling for provider orders, reminding patients about appointments, and educating patients. Data was collected, interpreted, and analyzed throughout implementation period to the beginning of March 2019. The written component of the project was completed at the beginning of March 2019, and a successful written and oral defense will be completed by early April 2019, with anticipated graduation in May 2019. Results and supporting resources will be disseminated after completion of the written and oral defense at UHM School of Nursing and KWC. A Gantt chart was included to provide a visual overview of the project timeline (see Appendix G).

Data Collection Procedures

Epic was used to obtain KWC BIRADS 3 data from December 2017 to February 2018 and December 2018 to February 2019 including patient demographics, BIRADS results, appointment due date, appointment status (not scheduled, scheduled, overdue, no show, closed/resolved), and appointment details. During project implementation, appointment information was logged for patients with prescheduled appointments, and they received reminder calls within one week of their scheduled appointments. All reminder calls were logged in the appointment notes and on an Excel document to facilitate follow up on the appointment status. Those who cancelled or missed their appointments received follow up phone calls (see Appendix F).

Patients who were not scheduled, cancelled prescheduled appointments, and missed their appointments were contacted and offered scheduling opportunities. Appointments not completed within a month (30 days) of the appointment due date were considered overdue. The data collected was compiled on an Excel document and manually updated on a weekly basis to ensure patients were managed according to the program guidelines (see Appendices E, F, and H).

Staff were also interviewed periodically regarding their understanding of patient navigation and MI techniques. However, due to limited participation during project intervention, there was a lack of qualitative and quantitative data collected for this outcome.

Evaluation/Results

Description of Sample

Patient Sample

Data was collected from Epic for KWC BIRADS 3 patients who were due for appointments between December 1, 2017 through February 28, 2018 and compared to data obtained for different KWC BIRADS 3 patients due between December 1, 2018 through February 28, 2019. There was a total 656 KWC BIRADS 3 patients identified and analyzed for timely follow, with 377 patients reviewed for pre-intervention data and 279 patients for post-intervention (see Table 1). The "not completed" category includes patients who have not been scheduled, those who do not require follow up, and those that transferred care. Disclaimer: February 2019 results are subject to change as data was collected in early March 2019 and Appointment Completed after 30 days data presumes prescheduled patient will keep their appointment dates.

Table 1
Description of Patient Sample (Number of Patients)

	Years	Appt Completed (Before Due)	Appt Completed (0-30 Days)	Appt Completed (> 30 Days)	Not Completed
December	2017	28	65	33	10
	2018	29	49	25	9
January	2018	24	53	40	12
	2019	14	47	12	15
February	2018	30	50	22	10
	2019	14	50	4*	11*

*Assuming prescheduled patients keep appointment dates

Staff Sample

Two KWC MAs were designated to assist with implementation of the project. Each was provided the BIRADS 3 program guidelines and received some training on patient navigation

components and MI techniques. However, due to staffing shortage, both MAs were reassigned to other facility tasks, which limited their efforts to implement the project. In addition, one MA was unable to report to work for an extended period of time.

Data Analysis

This project utilized independent samples t-tests to evaluate follow up outcomes. The abbreviations used include: *M* = mean, *n* = sample size, *Df* = degrees of freedom, *SD* = standard deviation, *SE* = standard error, *p* = probability. All statistical analyses were run using Excel 2016 and QuickCalcs website: https://www.graphpad.com/quickcalcs/.

Follow Up

Independent samples t-tests were conducted to compare mean scores of pre- and post-intervention data composed of the average amount of days between appointment due date and appointment completed date for KWC BIRADS 3 patients. When comparing December data, there was a non-significant difference (($p > 0.05$); $t(227) = 1.58$, $p = 0.12$) between the pre-intervention month of December 2017 (*M* = 29.75 days, *SD* = 69.47) and post-intervention month of December 2018 (*M* = 17.87 days, *SD* = 35.30).

On the other hand, the remaining analyses showed that KWC BIRADS 3 patients that were due for appointments in January 2019 and February 2019 completed their appointments closer to the due dates than those that were due in January 2018 and February 2018. January data showed that there was a statistically significant difference ($p < 0.05$) between pre-intervention month of January 2018 (*M* = 30.42 days, *SD* = 52.52) compared to post-intervention month of January 2019 (*M* = 13.12 days, *SD* = 28.58); $t(188) = 2.58$, $p = 0.01$. February data also was statistically significant when comparing pre-intervention month of February 2018 (*M* = 22.76 days, *SD* = 51.60) with post-intervention month of February 2019 (*M* = 8.37 days, *SD* = 13.10);

$t(168) = 2.25$, $p = 0.03$. See Tables 2 and 3 below for pre- and post-intervention descriptive statistics and t-test equality of means data analyses.

Table 2
Descriptive Statistics for Pre- and Post-Intervention Follow Up: Days Between Appointment Due and Appointment Completed Dates

	Years	*M*	*SD*	*SE*	*n*
December	2017	29.75	69.47	6.19	126
	2018	17.87	35.30	3.48	103
January	2018	30.42	52.52	4.86	117
	2019	13.12	28.58	3.35	73
February	2018	22.76	51.60	5.11	102
	2019	8.37	13.10	1.59	68

Table 3
Independent Samples t-test for Equality of Means of Pre- and Post-Intervention Follow Up: Significant Post-Intervention Improvement Seen for January and February

					95% Confidence Interval of the Difference	
	t	*dF*	Sig. (2-tailed)	Std. Error Difference	Lower	Upper
December	1.58	227	0.12	7.54	-2.97	26.73
January	2.58	188	0.01	6.70	4.09	30.50
February	2.25	168	0.03	6.40	1.77	27.02

Timely Follow Up

Timely follow up was defined as completing the appointment before or within 30 days of the appointment due date. Data was manually reviewed and categorized into three patient groups for each month: 1) those who completed their appointments before or by 30 days of their appointment due date, 2) those who completed their appointments after 30 days of their appointment due date, and 3) patients who required appointment follow up. Table 4 depicts the patient count for each category, while Table 5 shows the information as percentages. The “follow up needed” category applies only to patients who do not have any identified reason to not require

follow up and excludes patients who do not need follow up due reasons such as surgery or biopsy to specified site of the breast, transferal of care, or relocating.

Table 4
KWC BIRADS 3 Patient Count for Pre- and Post-Intervention

	Years	Appt Completed (≤ 30 Days)	Appt Completed (> 30 Days)	Follow Up Needed
December	2017	93	33	9
	2018	78	25	5
January	2018	77	40	5
	2019	61	12	10
February	2018	80	22	5
	2019	64	4*	9*

*Assuming prescheduled patients keep appointment dates

As December 2018 had a timely follow up outcome of 72.2%, this month did not meet the 10% improvement of timely follow up for December 2017 (68.8%) as that would be equal to 75.7%. However, January 2019 (73.5%) and February 2019 (83.1%) did meet the 10% improvement goal as 10% improvement of January 2018 (63.1%) would be 69.4% and February 2018 (74.8%) would equal 82.3%.

Table 5
Percentage of KWC BIRADS 3 Patients for Pre- and Post-Intervention Timely Follow Up: January and February Met Targeted Outcome for ≥ 10% Improvement in Appointment Completed (≤ 30 Days)

	Years	Appt Completed (≤ 30 Days)	Appt Completed (> 30 Days)	Follow Up Needed
December	2017	68.8%	24.4%	6.7%
	2018	72.2%	23.1%	4.6%
January	2018	63.1%	32.8%	4.1%
	2019	73.5%	14.5%	12%
February	2018	74.8%	20.6%	4.6%
	2019	83.1%	5.2%*	11.7%*

*Assuming prescheduled patients keep appointment dates

No Show

No show was defined as KWC BIRADS 3 patients who missed their appointments during the pre-intervention months of December 2017 through February 2018 and post-intervention

interval of December 2018 through February 2019. Overall, there were 31 post-intervention patients who missed appointments compared to 44 pre-intervention patients. December 2018 (11) and January 2018 (7) met the 10% decrease in no show occurrences goal as 10% reduction of December 2017 (15) would be 13.5 and January 2018 (21) would equal 18.9. However, February 2018 (13) had more no show occurrences than February 2017 (8) (see Figure 1).

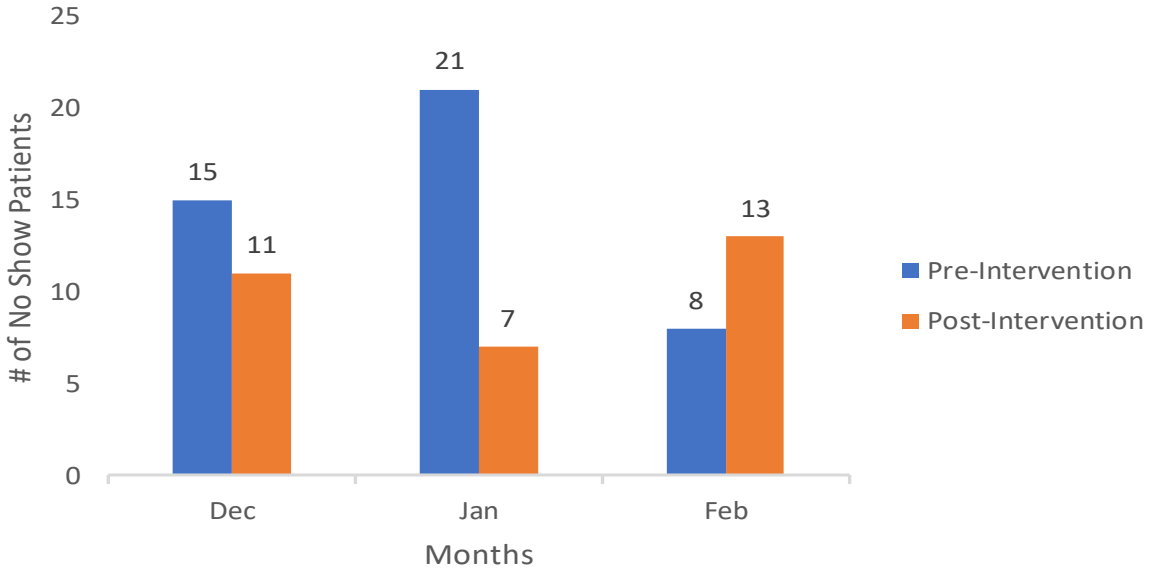

Figure 1. KWC BIRADS 3 patient no show appointments pre- and post-intervention: December and January met targeted objective of ≤ 10% Reduction of No Show Occurrences

Reminder Calls

There was a total of 318 reminder call attempts for all upcoming KWC BIRADS 3 patient appointments between December 1, 2018 through February 28, 2019; however, there were 87 patients not reminded due to barriers including wrong or disconnected phone numbers, full voicemail boxes, voicemail not set up, and no answer and voicemail options. Patients also did not receive reminder calls if appointments were made within one week of the scheduled date. Of the total number of missed appointments, 19 patients did not receive a reminder call due to

one of the above reasons, while 12 patients did receive a call or voicemail reminder but still missed their appointment (see Figure 2).

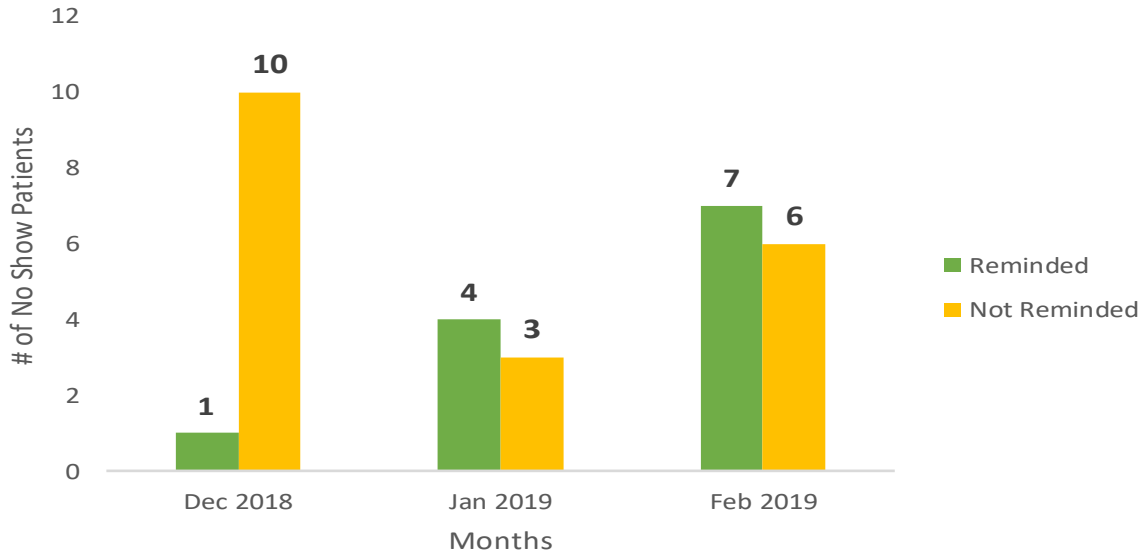

Figure 2. KWC BIRADS 3 post-intervention no show patient count divided into two categories: reminder calls and no reminder calls.

Increased Knowledge

In September 2018, the DNP project components and objectives were presented to the KWC staff members, which included handouts of the presentation material and open discussions. When staff members were asked to explain patient navigation and MI techniques after the presentation, most verbalized the importance of reflective listening and communicating efficiently with patients to decrease confusion and empower patients. However, interviews with MAs were limited due to reassignments, and one MA designated for the project has not returned to work since the start of January 2019. Both were rarely involved with implementation of the DNP project.

Barriers to Care

Barriers to care were identified through patient interactions via phone calls and reviewing patient demographics. However, not all patients provided input on barriers to care. Figure 3

depicts various barriers of care identified during implementation of DNP project between December 2018 through February 2019.

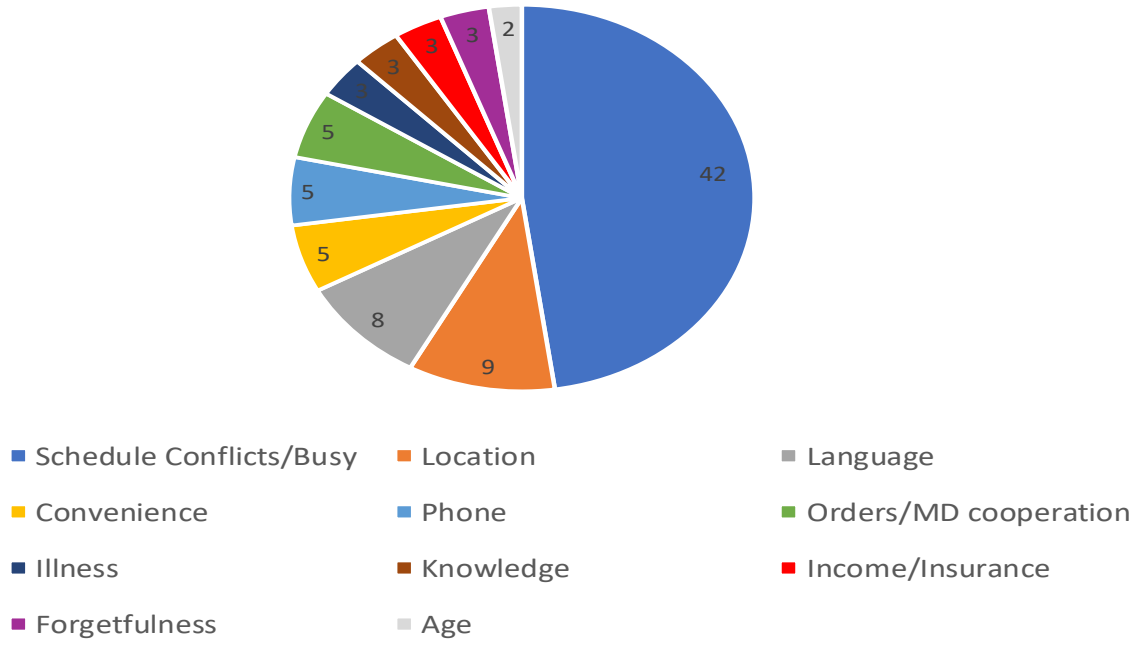

Figure 3. Identified barriers to care for KWC BIRADS 3 patients.

The largest barrier of care identified by KWC BIRADS 3 patients included conflicting or busy schedules (42), especially for patients like teachers who were only allowed designated time off during certain times of the school year. Several patients also lived internationally, on the continental United States, or on neighboring islands (9), which required coordination of flight dates and times and appointment availability. Language barriers (8) also posed a barrier to care in relaying comprehensible information and scheduling. Other barriers included convenience and coordination with other facility appointments (5), phone issues (5), obtaining provider's orders and cooperation (5), illness (3), knowledge of follow up importance and imaging (3), lack of insurance and low income (3), forgetfulness (3), and pediatric patients (2) (see Figure 3).

Discussion/Conclusion

Interpretation of Findings

Follow Up

Independent samples t-test analyses showed significant decreases in the average amount of days between appointment due dates and appointment completed dates (follow up) for January 2019 and February 2019 but an insignificant decrease for December 2018 compared to pre-intervention data. Although December 2018 showed an increase in timely follow up of 4.9%, only January 2019 and February 2019 data showed at least a 10% increase compared to pre-intervention months, which partially met the intermediate objective of the project. As the DNP project began in December 2018, the follow up trends seem to have improved with continuation of DNP project implementation. This is possibly an indication of success of the DNP project components; however, it is uncertain whether these results correlated with project implementation or other external factors, such as holiday/vacation season availability or extension of work hours. The complete impact of the DNP project components could become more evident and possibly show a greater impact if project implementation was extended to at least 6 months. This would encompass the full required observation period in the BIRADS 3 recommendations and provide a larger sample size.

No Show

Between December 1, 2018 and February 28, 2019, there was a total of 31 KWC BIRADS 3 patients who missed their appointment. Both December 2018 and January 2019 met the intermediate project objective of a 10% decrease in no show incidents compared to the pre-intervention months, while February 2019 failed to meet the objective as there was an increase in no show occurrences versus February 2018. Even with an overall total of missed appointments

decreased, there was no distinguished trend as no show occurrences fluctuated during implementation. This may suggest that a longer implementation time may be necessary to observe a definitive effect.

When no show patients were contacted and rescheduled, MI techniques were utilized to facilitate conversations and identify several contributing barriers to care including language barriers, schedule conflicts, illness, traveling, forgetfulness, and wrong appointment location scheduled. Most of the no show patients completed their appointments in a timely manner, although those with identified language barriers required multiple attempts to achieve completion or resolution.

Reminder Calls

When comparing no show results, there was no clear pattern indicating that reminder calls did not seem to have a large effect on no show results (see Figure 2). However, there was a total decrease in no show occurrences that may be attributed to the reminder calls component of the project, but it does not take into account other contributing factors like addressing barriers to care. Extension of the implementation duration may provide more insight into the impact of reminder calls on no show outcomes.

Increased Knowledge

Due to the limited participation and accessibility of KWC MAs, complete pre- and post-interview data was unable to be collected for assessing the knowledge of patient navigation and MI techniques. Brief conversations with other KWC staff indicated an awareness of patient navigation and MI techniques, but these were more commonly utilized during patient interactions for breast imaging patient care, and not for the DNP project implementation.

Barriers to Care

When implementing the DNP project, language barriers were the most difficult obstacles to overcome when attempting to educate and schedule patients, as interpretation was not provided during these conversations. On examination of the records and multiple phone conversations, all four patients who had multiple no show incidents throughout the implementation time period spoke a primary language other than English.

One method utilized to circumvent the language barrier was to schedule appointments with the patients' primary ordering provider if these could not be scheduled directly with the patient. For instance, several patients listed Kalihi-Palama Health Center (KPHC) as their primary care provider, and appointments were scheduled with KPHC, who in turn informed patients of appointment details using translators in addition to receiving reminder calls from KWC. However, it was not guaranteed that the facility was able to contact and share the appointment information with the patients, as evidenced by frequent no show outcomes despite multiple scheduling attempts. Family members who spoke English were also used to remind patients and schedule appointments, but they were utilized sparingly to protect patient privacy and avoid interpretation errors. These findings indicate the necessity of implementing a secured phone interpreter system for KWC to address this barrier to care.

Schedule conflicts and other identified barriers to care often led to delays or loss to follow up (see Figure 3). This is significant, because although BIRADS 3 results indicate the likelihood of benign results, timely follow up and appointment completion are necessary to ensure appropriate patient care management and early detection of breast cancer. Of the total KWC BIRADS 3 patients seen during the implementation period of December 1, 2018 to February 28, 2019, there were 14 patients who were escalated to BIRADS 4 categories or higher,

indicating suspicious findings with recommendations for breast biopsy. These patients who were identified with BIRADS 4 or higher categories were immediately advised of results at the facility and scheduled with on-site MAs for appropriate biopsy procedures per KWC protocol. No pre-intervention data was available for comparison.

Patient navigation and MI techniques were mostly utilized for those patients with identified barriers to care. These components helped to understand and appropriately address patient issues. For instance, one patient verbalized frustration at scheduling an appointment as she was informed that KWC needed a physician order before scheduling. This barrier was easily addressed by calling the physician office for the order and personally contacting the patient when the order was received. By doing so, this took the burden off the patient and alleviated the stress of constantly following up with the facility and provider's office.

Barriers to Implementation/Limitations

The three barriers to implementation included technology access, short implementation timeline, and staffing issues. Technological access and sorting of KWC BIRADS 3 patient information were the most challenging barriers as the project was projected to start on October 1, 2018 but was significantly delayed due to lack of appropriate IT access despite multiple attempts by content expert and author. Complete access was not obtained until the end of November 2018, thus, postponing the starting implementation date to December 1, 2018. This delay shortened the implementation timeline and affected data collection and analyses time. Another barrier included lack of staffing, which led to minimal implementation support from staff members, despite early engagement of MAs in October 2018 and DNP project presentation to the entire KWC staff in September 2018. Ideally, the project should have been implemented multiple times during the week to ensure prompt follow up but was limited to once a week updates and progress.

Recommendations

For further implementation of this DNP project, the author would advise extending implementation for the duration of the BIRADS recommendation period to account for program guideline follow up timeline recommendations and afford enough time for data collection and analysis. By extending the implementation time, it would also allow for complete patient navigation throughout the diagnosis and follow up period and provide more distinct insight of the relationship between with interventional components and outcomes.

Another recommendation would be to clearly designate responsibilities to staff members and avoid reassignment if possible. The author found that rapport and trust was easier to establish with hard-to-reach or reluctant patients if there had been consistent and previous interactions including phone conversations and leaving voice messages.

As barriers to care had a large impact on patient follow up, facility protocols and infrastructure may need to be adjusted to accommodate patients' concerns and obstacles. Weekend, early, and late appointment time availability for diagnostic mammogram and ultrasounds may need to increase to provide more scheduling opportunities. KWC telephone interpreter services, such as Pacific Interpreters, should also be utilized for patients with identified language barriers as these services are able to provide translation for multiple languages during three-way phone conversations.

DNP Essentials

In 2005, the American Association of College of Nursing (AACN) Board of Directors created a task force focused on developing Essentials of Nursing Education directed for graduate training and education for nurse practitioners. The AACN published the first set of *The*

Essentials of Doctoral Education for Advanced Nursing Practice in 1986 that highlighted the foundational competencies for graduates of DNP programs (AACN, 2006).

Essential I: Scientific Underpinnings for Practice

This essential was integrated into the literature review where EBP articles were examined and synthesized to develop and evaluate the interventions of the project and create program guidelines. See the Review of Literature section.

Essential II: Organizational and Systems Leadership for QI and Systems Thinking

This DNP project was a QI endeavor that aimed to improve KWC BIRADS 3 care management through creation of established EBP guidelines and identification of barriers of care. To implement the project, MI techniques were utilized to train MAs and during patient interactions, which lead to open and honest conversations. Efficient and effective communication was also necessary to successfully implement the project.

Essential III: Clinical Scholarship and Analytical Methods for EBP

For the duration of this DNP project, the author created and led the patient navigation pilot program for KWC BIRADS 3 patients based on data from EBP articles to improve aspects of care management including increasing follow up, decreasing no show outcomes, and addressing barriers to care. Each outcome was measured, analyzed, and discussed in this manuscript. MI techniques obtained from EBP articles were utilized also during patient and staff interactions.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care

Epic was utilized during this DNP project to identify appropriate patients, track their progress, and identify barriers to care in order to improve the project designated outcomes. The author also created no show reports on Epic to compare pre- and post-intervention data.

Essential V: Health Care Policy for Advocacy in Health Care

This DNP project structuralized and standardized KWC BIRADS 3 scheduling and follow up policies. The intermediate and long-term goals of this DNP project are ultimately to implement a permanent policy change for BIRADS 3 follow up and care management by continuing to utilize these program guidelines and expand to other BIRADS groups (see Appendix C).

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

The author collaborated with committee members, stakeholders, staff members, and patients in order to develop and implement this DNP project. Without this collaboration, the project would not have occurred.

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

This DNP project aimed to improve care management of KWC BIRADS 3 patients in order to provide proper monitoring and possibly early detection of breast cancers in order to better patient outcomes. Barriers of care were also identified to inform the facility of other areas that may need improvement for patient care.

Essential VIII: Advanced Nursing Practice

The author utilized EBP literature and advanced clinical judgement through interprofessional collaboration and stakeholder input to develop and implement this DNP project that showed promise for improving follow up and no show outcomes for KWC BIRADS 3 patients. Components of the project including patient navigation and MI also provided opportunities for developing rapport, education, and comfort for the population as well as identifying and addressing barriers to care.

Plans for Dissemination

The results of this project will be reported and distributed through many methodologies including oral presentations, PowerPoint presentations, and formal written reports. KWC incorporated this project into their National Accreditation Program for Breast Centers (NAPBC) projects for 2018, and the findings will be presented to the committee during Summer 2019.

Summary

Overall, the DNP project showed promising results for improving care management of KWC BIRADS 3 patients by addressing several barriers to care utilizing MI techniques and patient navigation as well as scheduling timely appointments and working towards decreasing no show occurrences. However, the project implementation timeline should be extended for the future to provide distinct correlations between project components and outcomes, and the facility should avoid reassigning the designated personnel to promote consistency of follow up and to establish rapport and trust with patients. The facility may also need to accommodate for patient barriers to care through utilization of telephone translators and extension of work hours.

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Appendix A

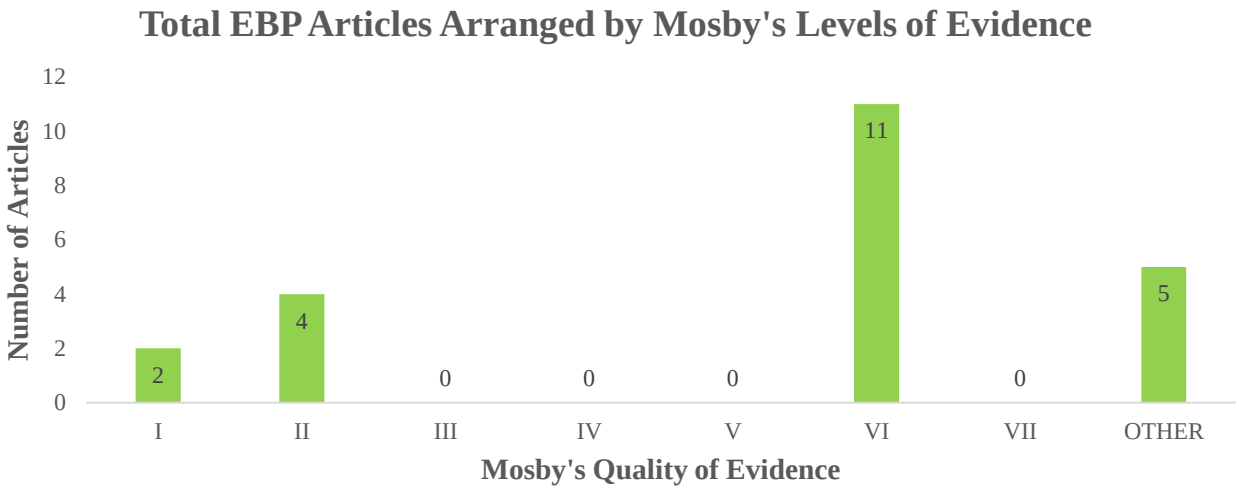


Figure 4. Total EBP articles arranged by Mosby's levels of evidence.

Table 6
Mosby's Level of Evidence Criteria

Mosby's Level of Evidence	**Description**
Level I	Systematic review, meta-analysis, multiple well-designed RCTs (randomized controlled trials)
Level II	One-well designed RCTs
Level III	Well-designed quasi-experimental (without randomization)
Level IV	Well-designed case-control or cohort studies
Level V	Systemetic reviews of descriptive and qualitative studies
Level VI	Descriptive or qualitative studies
Level VII	Opinion of authorities or experts
Other	Performance improvement/clinical guidelines

Derived from Ackley, Swan, Ladwig, & Tucker (2008)

Appendix B

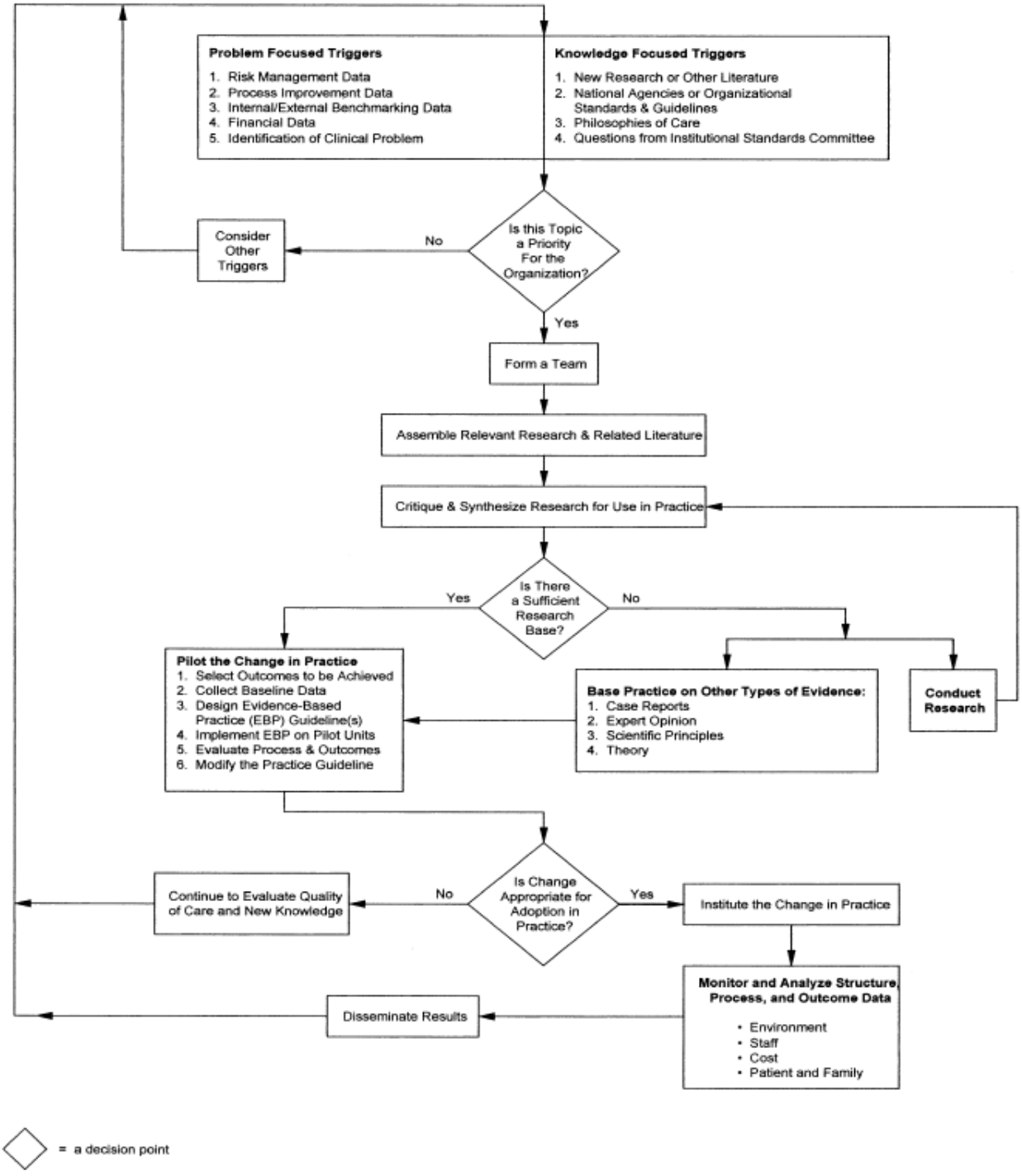


Figure 5. The Iowa Model of EBP (Titler et al., 2001, p. 500).

Appendix C

Logic Model

Program: BIRADS 3 pilot patient navigation program for KWC using an evidence-based scheduling and reminder system and MI techniques to improve patient care management.

Goal: Improve patient care management and follow up for KWC BIRADS 3 patients.

Evaluation Design: This will be a a one-group time series evaluation design, as it focuses on the KWC patient population with BIRADS 3 breast imaging results and baseline data will be compared with post-intervention data.

Resources/Inputs	Outputs		Outcomes			Evaluation Questions
	Activities	Participants	Short-Term (1 – 3 months)	Intermediate (3 mo – 3 years)	Long-Term (3-5 years)	
KWC facility KWC staff members (facility manager, MAs, business office assistant (BOA) supervisor, BOAs, lead imaging technologist, imaging technologists), DNP student Time: sorting through results, identifying patients, calling/mailing patients and providers, scheduling appointments, etc.) Equipment: Computers, phones, Epic system (electronic medical records), translating system	Create program guideline for patient navigator utilizing evidence-based research and clinical guidance before implementation Obtain baseline assessment Train MAs Identify qualifying patients using Epic Maintain patient navigator log Patient navigator to coordinate follow up appointments Manage patient reminder system Conduct knowledge/staff interviews	Patient navigator DNP student and chair members KWC staff members (facility manager, MAs, BOA supervisor, BOA, lead imaging technologist, imaging technologists) KWC patients with BIRADS 3 breast imaging results from Dec 2017-Feb 2018 and Dec 2018-Feb 2019	100% of staff trained in the first month All staff members will utilize the program for every KWC BIRADS 3 patient Increased knowledge regarding patient navigation and MI	10% increase in follow up rates and 10% decrease in no-show incidents for KWC patients with BIRADS 3 results Program utilized for every KWC BIRADS 3 patient Organizational policy change incorporating patient navigation utilizing an evidence-based scheduling/reminder system and MI for KWC BIRADS 3 patients	25% increase in follow up rates and 25% decrease in no-show occurrences for KWC patients with BIRADS 3 results Improved breast health outcomes including decreased mortality and morbidity Expand program to other BIRADS groups	Will the patient navigator and MAs be trained and able to analyze data and coordinate follow up protocol? Are staff willing to participate in protocol change? Do staff members follow the guidelines for each patient? Did staff members knowledge and comfort with MI improve follow up procedures? Will follow up and no-show outcomes improve for patients with BIRADS 3 results?

Resources/Inputs	Outputs		Outcomes			Evaluation Questions
	Activities	Participants	Short-Term (1 – 3 months)	Intermediate (3 mo – 3 years)	Long-Term (3-5 years)	
Funding: KWC (staff salaries, office supplies fees,	Pre/post-intervention follow up comparisons					

Assumptions: Patients are only being seen at KWC and do not transfer care to another facility

External Factors: This program may not address other barriers to follow up like transportation, health insurance, childcare, work, and other programs/events held during implementation time.

Appendix D

Patient Navigation

Patient Navigator Roles and Activities:

- Identify and track appropriate KWC BIRADS 3 patients; patient outreach
- Recognize and eliminate barriers to care (within scope of practice)
- Schedule and reschedule KWC BIRADS 3 patient appointments
- Collect and analyze KWC BIRADS 3 patient follow up and no show data

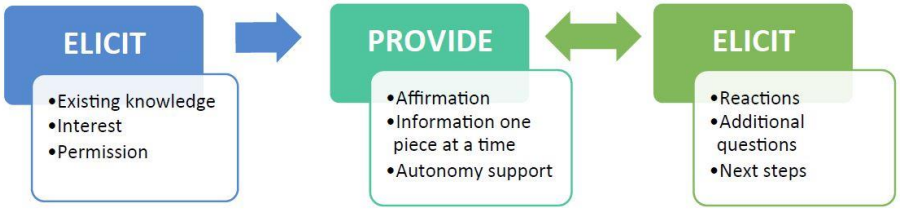
Patient Navigation Expected Outcomes:

- Establish trust and rapport with patients and staff
- Improve follow up and no show outcomes

Motivational Interviewing

Technique	Description	Example
R (Roll with Resistance)	-Flow with reasoning and explore resistance - Resistance = personal information about motivations -Reflective listening	- I understand that you do not want to follow up at the moment. What are your reasons for not scheduling? What other options have you heard of?
E (Express Empathy)	-Identifying and understanding the feelings of the other person without judgement; validate feelings -Establish rapport and trust formation	- I hear that you are frustrated because you are asked to follow up more frequently. I can understand that may be an inconvenience.
A (Avoid Argumentation)	-Direct confrontation = added resistance -Emphasize self-recognition of issues	-Ex: Patient does not want to schedule appointment. Follow up questions: What have you heard and understand about your breast imaging results? Would you be willing to discuss your goals for the future?
D (Develop Discrepancy)	-Align goals with motivation for change -Assist in realizing discrepancies between actions and goals -Avoid coercion or pressuring patient	-Your goal is to see your children grow up, but not following up properly could potentially have serious health consequences.
S (Support Self-Efficacy)	-Patient empowerment through support and encouragement -Set achievable and reasonable goals -Believe in the patient	-You have done breast imaging in the past and that is great! Keep up the good work!

Adapted from Miller & Rollnick, 1991



Appendix E

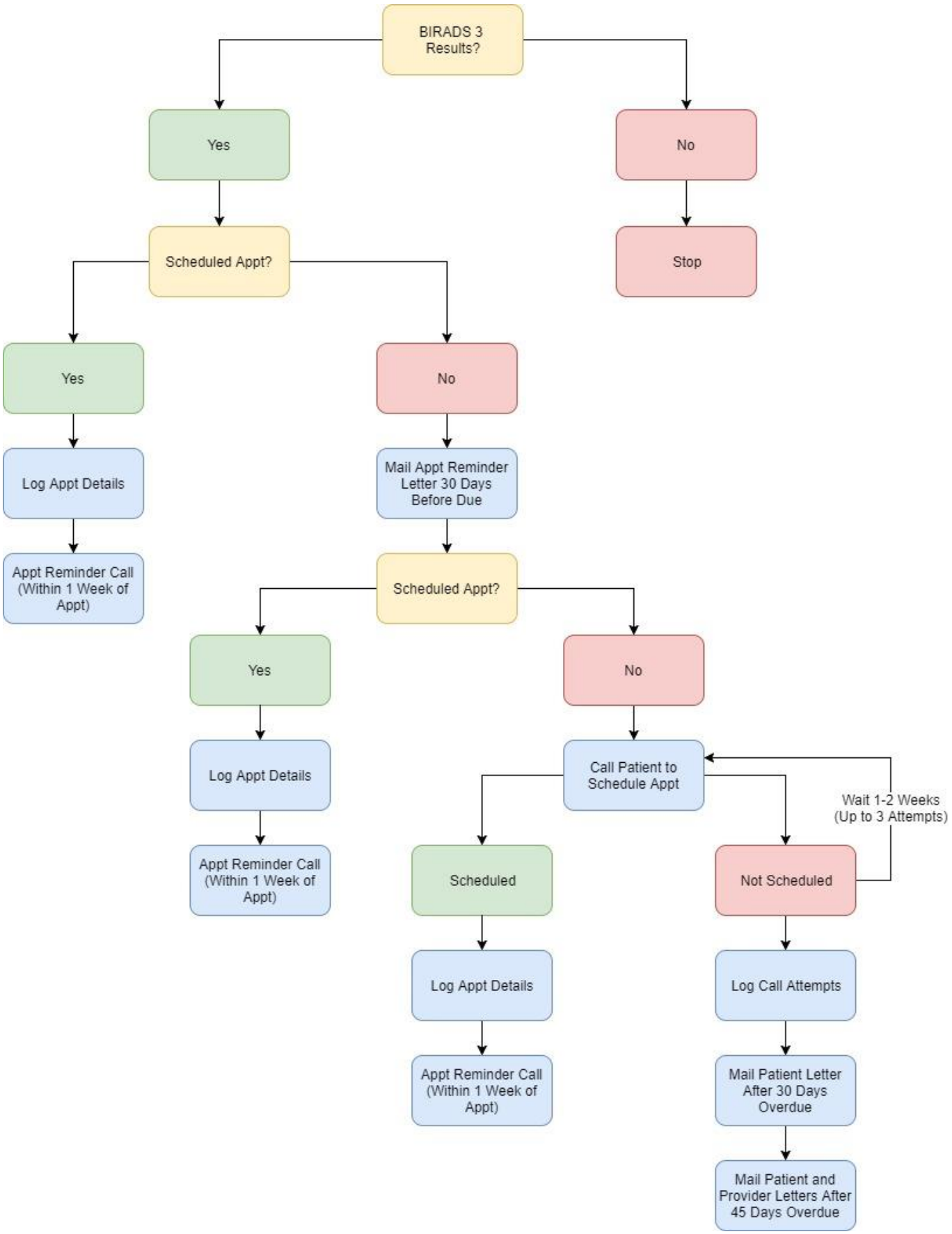


Figure 6. Program guideline for scheduling and reminding KWC BIRADS 3 patients.

Appendix F

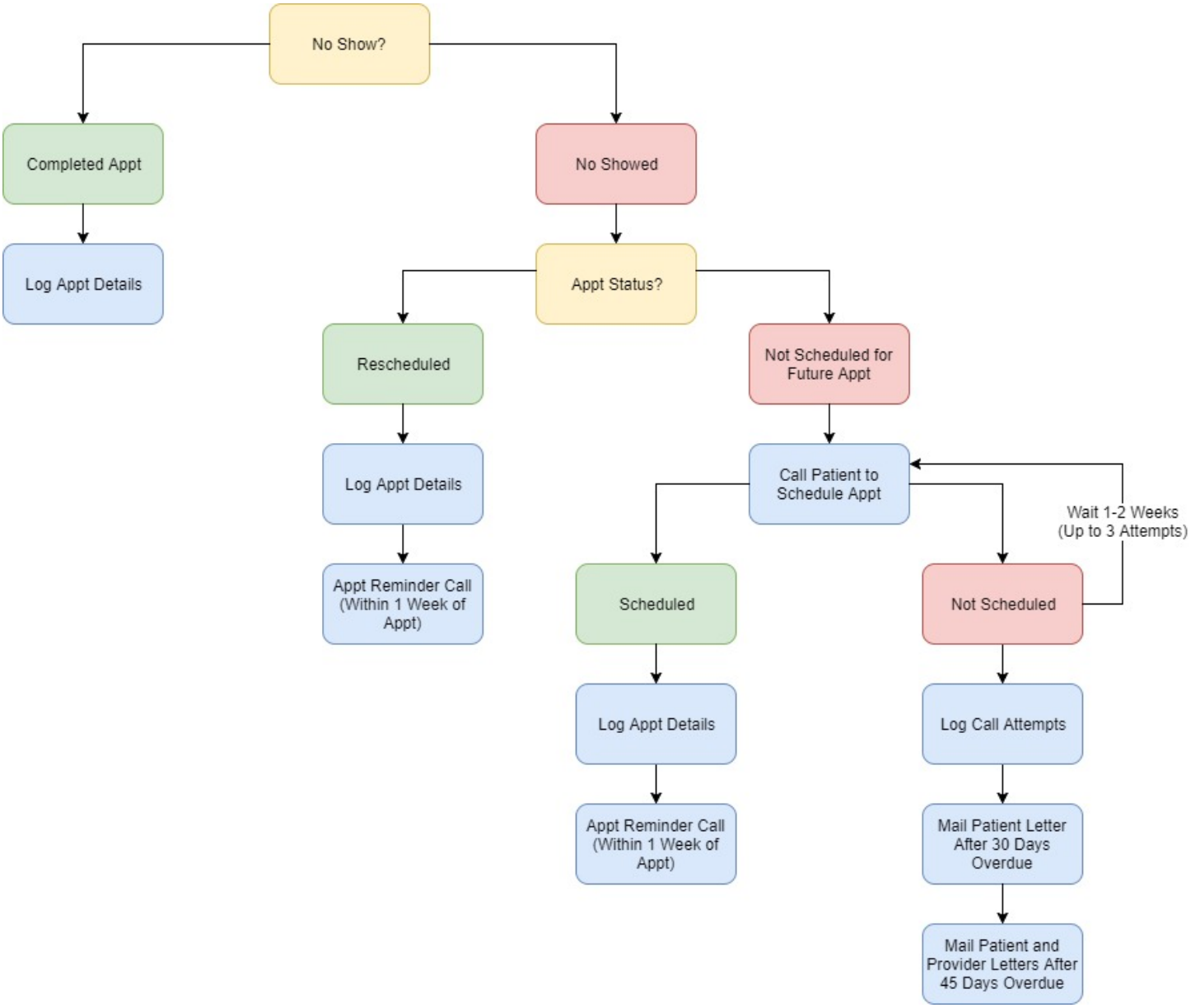


Figure 7. Program guideline for KWC BIRADS 3 no show patients.

Appendix G

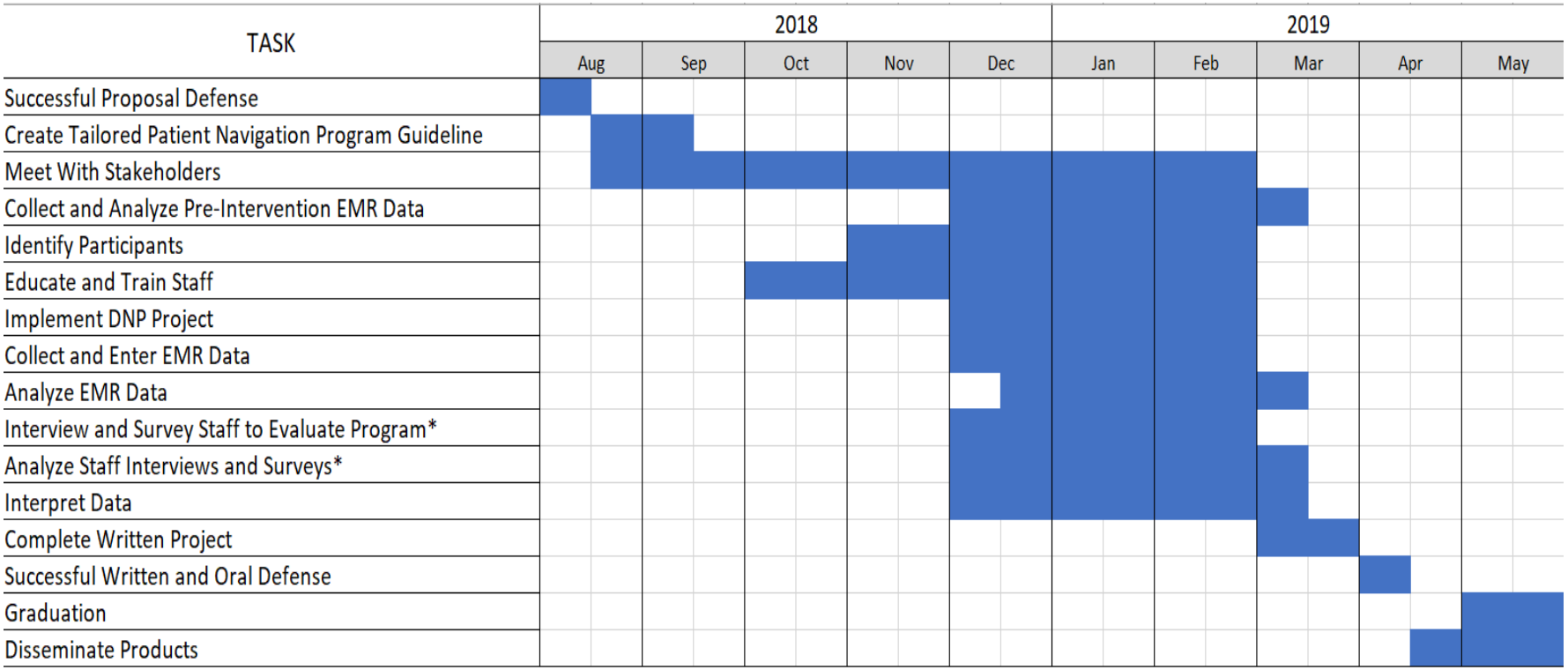


Figure 8. A Gantt chart that provides a visual overview of the DNP project timeline.

Appendix H

Dec 2018 BIRADS 3 Timely Follow Up					
Patient	Date Due	Date Scheduled	Days Between	Notes	Scheduled?
1	12/1/2018	12/11/2018	10		
2	12/1/2018	12/11/2018	10	Went on to bx	
3	12/1/2018	12/7/2018	6	R/s x1 (schedule conflict)	
4	12/2/2018	12/13/2018	11		
5	12/2/2018	12/10/2018	8		
6	12/3/2018	12/13/2018	10		
7	12/3/2018	12/28/2018	25	Cantonese	
8	12/3/2018	3/15/2019	102	Ilocano, Kalihi Palama, multiple n/s (1/11, 2/14, 2/28)	Scheduled
9	12/3/2018	12/10/2018	7	Went on to bx	
10	12/3/2018			Moved (no f/u needed)	
11	12/4/2018	12/27/2018	23	Work schedule, Tomo explained	Scheduled
12	12/4/2018	2/4/2019	62		
13	12/4/2018			LVM on 12/6, 12/28, 1/17, 3 attempts (f/u needed)	
14	12/4/2018			Resolved/closed (no f/u needed)	
15	12/4/2018	12/3/2018	-1		
16	12/5/2018	12/7/2018	2	Japanese	
17	12/5/2018	12/28/2018	23		
18	12/5/2018	1/10/2019	36		

Figure 9. Example of data collection Excel document for December 2018 KWC BIRADS 3 patients timely follow up.